

IN THE CLAIMS:

1. (Currently Amended) A method for butt welding metal sheets, preferably strips of metal sheet or steel sheet billets of differing thickness, the method comprising:

providing relative motion between a laser beam or electron beam and said metal sheets along the contact line between said metal sheets or the weld seam to be prepared with tension rollers arranged in pairs above and below said metal sheets at spaced location from one another and next to said weld seam along said contact line of said metal sheets or said weld seam to be prepared, wherein said tension rollers include tension rollers arranged above said metal sheets that are movable in height and/or roll on said metal sheets in a spring-loaded manner, 5
[[and]] wherein said tension rollers include tension rollers arranged below said metal sheets including a tension roller on one side of the said weld seam that is adjusted in height; and 10

changing the height of one of said tension rollers arranged below said metal sheets during an ongoing welding operation such that a thickness jump over a length of said weld seam is obtained between a top side of said metal sheets and a bottom side of said metal sheets.

2. (Currently Amended) A method in accordance with claim 1, wherein at least one of said tension rollers arranged below said metal sheets is [[are]] adjusted in height as a function of the thickness and/or the necessary height position of said corresponding metal sheet.

3. (Previously Presented) A method in accordance with claim 1, wherein the height

of one of said tension rollers is changed and the height of another tension roller is fixed during the ongoing welding operation.

4. (Currently Amended) A device for butt welding said metal sheets, preferably metal sheet strips or steel sheet billets of differing thickness for carrying out the welding method, the device comprising:

a laser beam or electron beam; and

5 tension rollers arranged in pairs at spaced locations from one another next to said weld seam above and below said metal sheets allowing relative motion between said laser beam or said electron beam and the metal sheets along a contact line between the metal sheets or a weld seam to be prepared, and said tension rollers including tension rollers arranged above said metal sheets that are movable in height and/or roll on said metal sheets in a spring-loaded
10 manner, and including at least one of said tension rollers arranged below said metal sheets, said at least one of said tension rollers being that is arranged on a bearing that is adjustable in height on a vertical guide rail, wherein a height of said at least one of said tension rollers is changed during a welding operation such that a thickness jump is provided along a length of said weld seam, said thickness jump being defined between an upper side of said metal sheets and a
15 lower side of said metal sheets.

5. (Currently Amended) A method for butt welding metal sheets, the method comprising:

providing a first metal sheet and a second metal sheet;

providing a laser beam or electron beam;

5 providing upper tension rollers and supported above the metal sheets so as to be
movable in height and/or roll on the metal sheets in a spring-loaded manner;

providing lower tension rollers arranged below the metal sheets with one of said lower
tension rollers being on one side of the weld seam and being adjustably mounted to be adjusted
in height, one of said upper tension rollers and said one of said lower tension rollers defining
10 a first receiving space, another one of said upper tension rollers and another one of said lower
tension rollers defining a second receiving space, said first receiving space being in
communication with said second receiving space to define a metal sheet receiving space;

feeding said first metal sheet and said second metal sheet through said metal sheet
receiving space such that said first metal sheet abuts said second metal sheet;

15 changing a height of said one of said lower tension rollers such that said one of said
lower tension rollers alters a dimension of said first receiving space, said first receiving space
corresponding to a thickness of one of said first metal sheet and said second metal sheet, said
second receiving space corresponding to a thickness of another of said first metal sheet and
said second metal sheet; and

20 welding said first metal sheet to said second metal sheet while changing said height of
said one of said lower tension rollers to form a weld seam, said first metal sheet having a first
metal sheet thickness in an area of said weld seam, said second metal sheet having a second
metal sheet thickness in said area of said weld seam, said first metal sheet thickness being

different from said second metal thickness to define a thickness jump in said area of said weld
seam.

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6. (Currently Amended) A method in accordance with claim 5, further comprising:
adjusting the height of said one of said lower tension rollers adjustably mounted on one
side of the weld seam; and

subsequent to said step of adjusting the height, fixing a height position of said one of
said lower tension rollers adjustably mounted on one side of the weld seam for [[but]] butt
welding the sheets said first metal sheet and said second metal sheet, wherein another one of
said lower tension rollers is in a fixed position, said another of said lower tension rollers not
moving during welding of said first metal sheet and said second metal sheet.

7. (Previously Presented) A method in accordance with claim 6, wherein said step of
adjusting the height includes adjusting the height of said one of said lower tension rollers
adjustably mounted on one side of the weld seam as a function of the thickness and/or the
necessary height position of said corresponding metal sheet which said one of said lower
tension rollers adjustably mounted on one side of the weld seam is in contact.

8. (Previously Presented) A method in accordance with claim 7, wherein the height
of said one of said lower tension rollers adjustably mounted on one side of the weld seam is
adjusted while maintaining fixed the height position of another of said lower tension rollers.

9. (New) A method in accordance with claim 5, wherein a height of another one of said lower tension rollers is fixed such that said another one of said lower tension rollers does not move.

10. (New) A method in accordance with claim 1, wherein a height of another one of said tension rollers arranged below said metal sheets is fixed such that said another one of said tensions rollers does not move.

11. (New) A device in accordance with claim 4, wherein another one of said tension rollers is fixed such that said another one of said tension rollers does not move.